UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
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BOSTON, MA 02114-2023

MEMORANDUM

DATE: November 13, 2001

SUBJ: EPA Comments on Pratt & Whitney Revised Remedial Action Plan, October 2001
Willow Brook and Willow Brook Pond
East Hartford, CT

FROM: Kim Tisa, PCB Coordinator
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THROUGH: Juan A. Pérez, RCRA Facility Manager
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The following EPA New England's comments are based on our review of the following documents for the above referenced site:

- *Remedial Action Work Plan, Revised October 2001 (RAWP)*
- *October 19, 2001 Responses to August 10, 2001 EPA Comments*

The comments are based on our review of these documents as they pertain to the federal PCB regulations under the Toxic Substances Control Act and are not meant to supersede any other federal, state or local regulations/requirements. For clarity, the original comments are presented; however, P&W's responses are not included. The ***italized*** language represents Kim Tisa's comments on P&W response to each of the associated original comments.

GENERAL COMMENTS

The revised RAWP is much improved over the initial submittal. The majority of EPA's

comments were addressed sufficiently both in the RAWP and within P&W's response. In several instances, EPA noted, however, that while the response was adequate, it was not transcribed into the RAWP. These have been noted in the ***italized*** comments. Also, many of my comments are minor in nature and do not effect the overall integrity of this project; rather these comments suggest areas that P&W may choose to revise for clarity and accuracy. I have also included several **New Comments** that do need to be addressed.

RAWP

1. Page 17, 3rd complete paragraph, last sentence - For clarification, §761.79(c) contains no provisions for decontamination of water; the correct citation is §761.79(b). ***P&W removed the original reference for decontamination of water and incorporated the reference with decontamination of field sampling equipment. This is incorrect. The original comment applied directly to decontamination and discharge of water containing PCBs and the §761.79(b) reference should be cited. The correct citation for decontamination of field sampling equipment is §761.79(c). RAWP should be revised for accuracy.***

2. Page 18, **Former Oil/Water Separator**, 2nd paragraph - A description of the additional soil sample collection procedure to be used prior to implementing remediation of this area should be described here. ***Response is acceptable.***

3. Page 22, **Site Restoration** - The 2nd sentence states "The restoration of the waterway and wetland were previously described." A reference should be provided here. ***Response is acceptable.***

4. Page 29, **Confirmatory Soil Sampling for Constituents Other than PCBs,** 3rd paragraph - The text indicates that if areas exceed the criteria for COCs other than PCBs, those areas will be excavated and then used to backfill the PCB excavation. It is unclear if this is allowed under either the federal or state requirements. I recommend that we clarify that this is acceptable to CTDEP. ***Response is acceptable.***

5. Pages 29-30, **Sample Collection** - The text describes the SOP for sample collection and compositing. In EPA's March 2001 letter to P&W, I had recommended that compositing be done in the laboratory due to sampling concerns. P&W indicated in its May 31, 2001 response to EPA that it preferred field compositing and proposed an additional step for sample collection. I am not convinced that this step will provide sound representative samples for purposes of compositing. P&W argues that, due to the proximity of each grab sample to the other, the variability of moisture content will be minimal. This may or may not be true. However, if this is the procedure P&W wishes to implement in the field, I suggest that an additional step be added to the procedure; specifically that prior to compositing, discrete grab samples be allowed to "rest" so that any free water can be allowed to separate (and decanted) prior to compositing. To expedite sample collection, dedicated syringes would have to be used for each sampling location; however, EPA also does not recommend that the same syringe be used for the individual grab samples as proposed in the RAWP. Prior to finalizing its composite sampling scheme, EPA encourages P&W to coordinate these activities with its selected laboratory to insure that

sufficient sample volumes will be collected for all COCs. ***Response is acceptable.***

6. Page 30, last paragraph - The text states that a visual characterization will be performed on each confirmatory sample. For clarification, visual observations should be made at each sampling location. In the event that visible staining or discoloration is noted, a bias sample should be collected rather than a 4-point composite sample. ***Response is acceptable.***

7. Page 31, **Disposal Characterization Sampling**, 2nd paragraph - The text refers to PCBs at > 50ppm as "PCB remediation waste" and to PCBs at < 50ppm as "PCB-contaminated waste". It was EPA's understanding that all PCB-impacted materials were "PCB remediation waste" as defined at §761.3 and therefore is regulated under the federal TSCA PCB regulations. P&W has provided no documentation to support otherwise. ***Response is acceptable.***

8. Page 31, **Miscellaneous Sampling** - It appears that P&W is proposing to characterize debris generated from demolition activities after demolition has occurred. In the event that any of these materials have been in contact with PCB-containing material, characterization must occur prior to demolition, not after. The requirement to dispose of PCB contaminated wastes based on the "as-found" criteria applies to all PCB-impacted materials, not just soils and sediments. ***Response is acceptable. I do recommend EPA Concrete Sampling Procedure for sample collection. Attached is a copy of this SOP.***

9. Page 34, Section 4.5.1, **Disposable Equipment and Debris** - As stated in Comment 7, it is EPA's understanding that all PCB-impacted material is "PCB remediation waste". Therefore, to indicate that wastes will be disposed of as bulk PCB remediation waste is not clear since various disposal options exist based on the PCB concentrations. As such, please clarify P&W's proposed disposition of all waste streams that will be generated. (e.g. specify the proposed disposal facility for various waste streams). ***Response is acceptable.***

10. Page 34, Section 4.5.2, **Decontamination Rinsate** - Unless P&W proposes to sample each rinsate waste prior to treatment, an assumption that the rinsate is < 50 ppm, as indicated in the text, cannot be made. ***Response is acceptable.***

11. Page 38, Section 5.1.5, **Disposal Characterization Sampling, Data Type** - This paragraph is confusing. It appears that the only data that will generated for disposal characterization is IA data. As stated in previous correspondence, this is not acceptable. Please clarify this paragraph. ***Response is acceptable.***

12. Page 39, Section 5.1.6, **Miscellaneous Sampling** - P&W should include disposal "in-situ" characterization for other materials, including the concrete, if applicable. ***Response is acceptable.***

13. Pages 40-43, **Project Organization and Responsibilities** - A organizational chart should be included and identify the key personnel by name, their affiliation, and telephone number. ***Response is acceptable.***

14. Page 48, **Analytical Procedures, Section 5.7.2** - TAT of 2 weeks established for effluent samples may be too long. P&W should confirm that laboratory will be willing to meet 24-hr TAT as needed. ***Response is acceptable.***

15. Inconsistencies are noted throughout this submittal. P&W should review and revise to insure consistency throughout. The following inconsistencies were noted:

    a. Page 37 indicates that a Tier II data validation will be performed on the confirmatory data; Page 50, Section 5.8.4 indicates that 5% of the final data reports will be reviewed; Page 57 indicates that 20% of the data will undergo full data validation. ***Response is acceptable.***

    b. Page 31 states that Method 8082A will be used for PCB analysis; Table 4-1 indicates Method 8082. Further P&W's May 31, 2001 Response to EPA's March comments also indicate Method 8082 will be used. ***Response is acceptable.***

    c. Page 28 states that 133 samples will be collected for PCB analysis; Table 4-1 indicates 121 samples will be collected; Table 4-2 indicates 117 samples for PCBs. ***Response is acceptable.***

    d. Page 35 indicates that *aqueous* PE samples will be collected for each suite of analytes; Page 53 indicates that four PE *soil* samples will be submitted. P&W's May 31, 2001 response also indicates aqueous PE samples will be used rather than soil. ***Response is acceptable, however, EPA would have recommended that solid PE samples be used rather than aqueous since the samples to be analyzed are solid matrices rather than aqueous.***

    e. Table 4-1 shows 69 composite samples will be collected for PCB; Notes 3 and 4 indicate 68 samples. ***Response is acceptable.***

16. Page 51, Section 5.9.5, **Field Duplicates** - Text states "Field duplicates will be prepared as discussed in the FSP." EPA can find no procedure describing sampling procedures for field duplicates. *P&W's response refers to Section 4.6.2 for the field duplicate sampling procedure and indicates that this reference has been included in Section 5.9.5. However, EPA cannot find the reference for 4.6.2 in Section 5.9.5.*

17. Page 52, Section 5.9.8, **Matrix Spike/Matrix Spike Duplicates** - For clarification, MS/MSDs can be used to measure both precision and accuracy, not just accuracy. ***Response is acceptable.***

18. Page 51, Section 5.9.5, **Field Duplicates** - The text states "Acceptable duplicate precision for soil samples must be less than 50%". EPA assumes that P&W means that the "RPD must be less than 50%" rather than the precision. Please clarify. ***Response is acceptable.***

19. Table 4-1, **Extraction Method Summary** - Various extraction procedures are included for the analytes of interest. Please clarify when/what criteria will determine the extraction

method that will be employed for this project. *P&W's response indicates that Table 4.1 has been revised to incorporate the extraction methods. However, upon review of Table 4.1, no extraction methods were found, with the exception of the SPLP. Upon review it appears that new Table 4.3 does contain both analytical, extraction and cleanup methods rather than Table 4-1. Please clarify response or revise table for accuracy.*

20. Table 4-1, **Extraction Method Summary** - Only soil/sediment matrices are shown. Please revise to include other matrices that will be analyzed during this project, including water and concrete. ***Response is acceptable, with exception noted in previous comment.***

21. Having three (3) tables labeled 4-1 is confusing. It would be helpful if the tables were renumbered in some fashion since these are separate tables. ***Response is acceptable. The following comments relate to newly revised Table 4-2 and 4-3:***

    a. *EPA understands that the number of samples shown in Table 4-2 represents and estimate and that actual numbers may vary in the field based on judgmental sampling or additional areas that are found to require cleanup. However, Note #6 of Table 4-2 doesn't appear to coincide with the number of samples shown (estimated to be collected) in this table.*

        i. *Note #6 indicates that a total of 121 PCB composite samples will be collected. Upon review of the table, the following PCB composite samples are found: 67 bottom composites and 54 sidewall composites. This represents a total of 119 samples not 121. Please check and revise if required.*

    b. *Table 4-3 summarizes the extraction and analytical methods that will be employed. This table does not coincide with the information presented in Table 4.1 as follows:*

ANALYTE	TABLE 4-1	TABLE 4-3
PCBs		
Extraction	Not given	3510C; 3545
Analytical	SW-8082; EPA-608	SW-8082
VOCs		
Extraction	Not given	5030B; 5035
Analytical	SW-8260B; EPA 601, 602, 624	SW-8260B
SVOCs		
Extraction	Not given	3510C; 3550B
Analysis	SW-8270C	SW-8270C
RCRA-8 Metals		
Extraction	SPLP??	3010A; 3050B

ANALYTE	*TABLE 4-1*	*TABLE 4-3*
Analytical	*SW-6010B; 7010; 7471A; EPA 200.7, 239.1, 239.2*	*SW-6010B*
Cyanide		
Extraction	*N/A*	*N/A*
Analytical	*SW-9012A; EPA 335.1, 335.2*	*SW-9012*
Pesticides	*Not in Table*	
Extraction		*3510C; 3550B*
Analytical		*8081A*
Herbicides	*Not in Table*	
Extraction		*3510C; 3550B*
Analytical		*8151A*
BNA		*Not in Table*
Extraction	*N/A*	
Analytical	*EPA 625*	
PAH		*Not in Table*
Extraction	*N/A*	
Analytical	*EPA 610*	

22. Table 4-2 - Numbers specified for COCs other than PCBs are not correct. For example the frequency for collection of field duplicates is 1/20; with a total of 74 samples the number of field duplicates should be 4, not 2. Please check all numbers and revise accordingly. ***This table is now Table 4.4. Response is acceptable, however, Note #3 is confusing. QA/QC samples should be associated with the confirmation samples rather than the disposal samples. The estimated sample quantities do correspond to those numbers indicated on Table 4-2 which relates to confirmatory sampling. However, this Note infers otherwise. Please clarify.***

23. Table 4-3 appears to include COCs that will not be analyzed during this project. This table should only include those analytes that are part of this project. Please revise accordingly. ***Response, in general is acceptable. However, Table 5-1 does include a reference for TCLP metals, which weren't shown in previous tables. Further wet chemistry parameters are indicated in Table 5-1, but not discussed previously.***

24. Table 5-1 - See previous comment. ***Response is acceptable, with the exception of the above noted comment.***

25. Table 5-1, Note 3 - It is unclear if the analytes listed here are COCs at this site. If so, there is no discussion in the QA/QC portion regarding the use of the data as it relates to these analytes with regard to the project action limits versus the project quantitation limits. ***Response is acceptable.***

26. Table 5-2 - See Comment 23, above. ***Response is acceptable, with the exception of the above noted comment.***

27. Table 5-4 - EPA does suggest that field instruments be checked at more frequent intervals than proposed here. For example, P&W may check the calibration of the pH meter initially, followed by checks during and at the end of the day. ***Response is acceptable.***

28. Table 5-5 shows precision/accuracy for the field pH measurements of ±1 pH S.U. These allowances appear to be substantial for pH; a more reasonable number would be ±0.1 pH S.U. ***Response is acceptable.***

May 31, 2001 Response to EPA March Comments

29. With regards to P&W's response to K.T. General Comment 1 - regardless of the public notice that P&W has undertaken to satisfy the state requirements, it is my understanding that EPA will also require formal public notification on this site. ***Response is acceptable.***

30. K.T. Specific Comment 16 - As stated in comment 7, above it is my understanding that all PCB-impacted materials meet the definition of "PCB remediation waste." If P&W has documentation to support otherwise, it should be submitted for EPA's review. Regardless, P&W may still request disposal of PCB-impacted material at < 50ppm in a state permitted hazardous and/or non-hazardous waste landfill. EPA still requests that specific disposal information regarding each waste stream be included in the RAWP. ***Response is acceptable.***

31. K.T. Specific Comment 20 - In its response, P&W indicates that the RAWP was revised to provide for a 4-point composite sample representing 1,600 square-foot area. As in EPA's original comment, P&W provides no justification for this approach. Justification is required that would support this type of sampling scheme. Reference to the *Verification Sampling Guidance Manual* is not sufficient. This document was to support EPA's PCB Spill Cleanup Policy which is not applicable at this site. ***Response is acceptable with proposed density sampling and biased sampling. However, EPA would suggest that in the event adjacent composite samples show wide COC concentrations, that denser and/or grab samples be collected in those areas to insure that cleanup standards have been met.***

32. K.T. Specific Comment 26 - See comment 30. ***Response is acceptable.***

33. K.T. Specific Comment 27 - P&W's response includes reference to 3540C or 3541 as extraction methods for this project. This is inconsistent with the information provided in Table 4-1. EPA does suggest that 3550 may not be a sound method for sediments due to the high organic content of the materials which could lower the PCB extraction efficiency for this method. ***Response is acceptable, however, response refers to Table 4-1 for***

extraction methods and it appears that the methods are in Table 4-3. Please see comment #19, above.

July 13, 2001 Response to CTDEP

34. Attachment 1 includes a revised Table 4.1. The methods listed should include references for all matrices of interest, including soils, sediments, water, and concrete. ***Response indicates that Table 4-1 was revised and includes methods for all matrices including soils, sediments, water, and concrete. Please be aware that while the methodology is the same as soils/sediments, concrete was not included in Table 4-1. Further, this table is inconsistent with Table 4-3 as noted in Comment 21.b., above.***

35. Revised Table 4.1 also appears to contain errors in the referenced methods. For example 3510C is a separatory funnel liquid-liquid extraction procedure, which does not appear to be applicable to soils and sediments. Method 352C0 does not exist to EPA's knowledge. ***See previous comment (#34, above).***

July 26, 2001 Response to CTDEP

36. Confirmatory sampling within the wetland areas appear to have changed such that the grid sampling is comprising a larger area. As discussed in previous correspondence, EPA is concerned over the # samples/area given the heterogeneity of the PCB distribution in this area. Accordingly, unless P&W can provide a sound justification for its sampling scheme, this sampling approach (grid size/sample) is not acceptable in the wetlands and a smaller sampling spatially will be required. ***Response is acceptable, with exception of suggestion noted in #33, above.***

37. Table 5-1 contains TPH methods for both ETPH and 418.1. CTDEP indicated that ETPH was the method of preference. Accordingly, Method 418.1 should be eliminated from the Table unless P&W is still conducting this test. ***Response is acceptable.***

General Overall Comments

38. The revised submittals appear to include additional procedures for on-site air monitoring both during work and idle time. The procedures address total dust and PM-10 dust. As the driver at the site is PCB-contaminated materials, P&W should provide a justification that the proposed air monitoring is sufficient and procedures for PCB monitoring is not necessary during this project. ***Response is acceptable.***

39. A revised Dust Control Plan dated May 2001 was submitted. Normally , the 150 $\mu g/m^3$ standard is over a 24-hour period. Page 1-1 of the plan indicated that it is a time-weighted average over a single 1-hour period. Please clarify this difference with a justification to support this standard. ***Response is acceptable.***

40. The RAWP did not indicate a thorough understanding of the concept of data quality objectives (DQOs), Data Quality Indicators (DQIs) the and measurement performance criteria (MPC), as discussed in the ***EPA-NE QAPP Manual Sections 7.1 and 7.2.*** DQOs are qualitative and quantitative statements that specify the quality of the data required to support decisions made during the project. For example, the 2 main

objectives that are not included here may be:

a. The generation of high quality data that is necessary to support a final risk-based decision at the site; and

b. The generation of data sufficient to insure that initial project action limits are met.

The ability to generate data to meet DQOs is evaluated through the process of identifying the data quality indicators (DQIs...formerly referred to as PARCCS parameters) to be evaluated, setting MPC for each of the DQIs, and defining the QC samples to be collected to assess whether or not the MPC are met. Then, a sampling process design is developed and both sampling and analytical procedures are chosen that will support achieving the defined PQOs and assessing the MPC. It is unclear if the MPCs that have been specified in Tables 5.2 and 5.3 achieve that goal. The MPCs set for the DQIs are not defined by the standard laboratory methodologies. The MPCs must be set initially, and then both sampling and laboratory methods are selected (from existing methodologies, after modifying existing methodologies, or after developing new procedures) capable of meeting (or providing more stringent criteria than) the MPCs. P&W should review all protocols, methodologies, and criteria to insure that the overall goals for this project can/will be met. ***The purpose of EPA's original comment was to point out that standard laboratory limits may not be sufficient for purposes of meeting a project's objectives. This concern arose since this data will ultimately be used to support an overall risk-based cleanup. Response is acceptable.***

41. Instead of multiple revisions, it will be extremely helpful to receive a final document containing all the changes made to date. ***Response is acceptable.***

42. The latest revision to the RAWP should reflect the latest date when it was revised; all documents still have the original 11/20/00 date at the bottom of every page. ***Response is acceptable.***

NEW COMMENTS

The following represent additional comments on the RAWP based on my review of the newly revised document. EPA noted in its review of P&W's October 19, 2001 responses, that the RAWP was modified to incorporate additional information that was not in the original RAWP and therefore was not commented on previously.

43. Page 18, **Process Water Buildings,** 1st paragraph - The 2nd to last sentence indicates 3 different cleanup standards for utilities. It is unclear how/where these numbers were derived. The 10 µg/100 cm^2 is the cleanup standard for non-restricted use of non-porous surfaces; however, 1 µg/100 cm^2 and 25 µg/100 cm^2 are not TSCA cleanup standards. Further the text implies that a direct comparison of surface concentrations to bulk concentrations exists for cleanup determinations; this is incorrect. The only comparison for wipe to bulk concentrations is found at §761.1(a)(3) which was put in place for purposes of determining if PCB cleanup is needed when no liquids are present. Please revise this paragraph for accuracy and clarity.

44. Page 33, **Sample Collection [for PCB confirmatory samples]**, There appears to be a procedural step missing from the analytical bullet. Prior to extraction of the sample by the laboratory, the sample aliquot must be dried either in a low-temperature oven or at ambient temperature in a desiccator. Please add step to procedure. The laboratory should also have an SOP for this which should be referenced here.

45. Page 38, **Field Duplicate Samples** - The 3rd sentence indicates that absorbent pads may be used to absorb standing water from samples. EPA suggests that P&W use caution if this procedure is employed. If soils are placed on absorbent pads, not only could the pads absorb water, but the pads could potentially absorb any oils that may be adhering to the soil particles. As a result, this could potentially effect the PCB concentration of that sample.

46. Based on my conversation with Brian Cutler on November 8, 2001, it appears that additional materials may exist that require decontamination that have not been included in the RAWP. For example, Section 2.3.2 includes a new discussion on utilities. It appears that in addition to utilities, sheet metal may also be present that would require either removal or decontamination. This needs to be included in the discussion and a reference for the wipe sampling SOP should also be included. P&W may also need to revise any associated tables to incorporate surface (e.g. wipe sample) determinations.

47. Table 5-3, Note 4 indicates that precision/accuracy values may change for the project as they will be dependent upon the selected laboratory. This is acceptable provided that the selected laboratory can give you results that are acceptable and that will assist in insuring data validity. As discussed previously, normally the parameters are established by the project team based on site objectives. In many cases, the laboratory's acceptance criteria is sufficient. In some cases, however, some project teams may require more stringent (e.g. tighter) controls.